REMARKS

Applicants would like to thank Examiner Alejandro for the courteous and helpful discussion held with Applicants' representative on September 16, 2003. During the discussion, it was noted that none of the applied references describe a secondary power source having a positive and negative electrode with the claimed compositions, and in which the negative electrode has a density of from 0.6 to 1.2 g/cm^3. In addition, it was noted that the claimed secondary power source has improved properties compared to power sources having negative and positive electrodes with densities outside the claimed range.

The following comments further elaborate on the issues discussed during the interview.

The rejection of the claims under the judicially created doctrine of obviousness-type double patenting and under 35 U.S.C. § 103(a) over U.S. 6,399,251 (Honbo), U.S. 6,558,846 (Tsushima), JP 2000-090972 (Kuruma), and U.S. 6,103,373 (Nishimura), either individually or in combination, are respectfully traversed. None of the applied references, either individually or in combination, describe or suggest a secondary power source having the combination of a negative electrode consisting essentially of a carbon material, and having the claimed density range, with a positive electrode consisting essentially of activated carbon, from 0.1 to 20 percent by weight of a conductive material, and 1 to 20 percent by weight of a binder.

The Examiner relies on Honbo as describing a lithium secondary battery with a negative electrode of a carbon material having a density in the range of 0.95-1.5 g/cm^3. However, the positive electrode material of Honbo is a "complex oxide containing Li and Mn, which has a spinel type crystalline structure (column 2, lines 38-40). Honbo teaches that the density range of 0.95-1.5 g/cm^3 of the negative electrode material prevents the

precipitation of Mn (dissolved from the positive electrode material) in the negative electrode (column 4, lines 5-17). Thus, Honbo teaches that the density range of the negative electrode material of Honbo should be selected to minimize a failure mode which is specific to the Li/Mn oxide composition of the positive electrode material of Honbo.

However, the claimed secondary power source has a completely different kind of positive electrode material (i.e. activated carbon) which cannot fail in the manner described in Honbo (activated carbon does not contain the Mn ions which Honbo teaches can precipitate in the negative electrode material). Consequently, the specific failure mode described in Honbo is not possible in the claimed secondary power source. Thus, one of ordinary skill in the art of preparing secondary power sources would not reasonably consider the teaching of Honbo to apply to the claimed secondary power source, in which the positive electrode material consists essentially of activated carbon. Accordingly, Honbo does not reasonably suggest combining an activated carbon positive electrode with a carbon material negative electrode having a density in the claimed range.

None of the other applied references describe the density of the negative electrode material, and therefore fail to recognize that the negative electrode density is result-effective in a secondary power source having an activated carbon positive electrode material and a carbon material negative electrode material. Accordingly, the combination of Honbo and the remaining applied references also fails to suggest the claimed secondary power source.

Furthermore, Table 1 at page 17 of the present specification demonstrates the criticality of the claimed density range of the negative electrode. Example 6 is a secondary power source which is otherwise identical to that of Example 1, except that the negative electrode density is 0.55 g/cm^3, and Example 7 is a secondary power source otherwise identical to that of Example 1, except that the density of the negative electrode is 1.25 g/cm^3.

In other word, the secondary power source of Example 6 has a negative electrode density somewhat lower than that of the claimed range, and the secondary power source of Example 7 has a negative electrode density somewhat higher than that of the claimed range. The secondary power source of Example 6 has a significantly lower initial capacity than that of Example 1, and the secondary power source of Example 7 has a significantly greater reduction in capacity after 2000 cycles, compared to Example 1. Thus, the claimed secondary power source has superior performance characteristics compared to otherwise identical secondary power sources having a negative electrode density outside the claimed range. Accordingly, none of the applied references, either individually or in combination, suggest the claimed secondary power source.

Applicants note that amended Claim 1 limits the positive and negative electrode compositions to those which are similar to the inventive compositions described in Examples 1-5. Accordingly, Applicants respectfully submit that the data of Table 1 of the present specification reasonably shows improved results within the claimed ranges.

Accordingly, and for the reasons stated above, Applicants respectfully submit that the present application is in condition for allowance. Early notification thereof is earnestly solicited.

Respectfully submitted,

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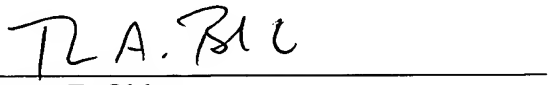

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